

WHAT IS CLAIMED IS:

1. A field emission display comprising:

first and second substrates spaced apart from each other with a predetermined distance, the first substrate having a top surface and the second substrate having a bottom surface, the top surface of the first substrate facing the bottom surface of the second substrate;

5 a cathode disposed on the top surface of the first substrate, the cathode having a top surface and a bottom surface, the bottom surface of the cathode contacting the top surface of the first substrate;

10 an anode disposed on the bottom surface of the second substrate, the anode having a top surface and a bottom surface, the top surface of the anode contacting the bottom surface of the second substrate;

a phosphor screen formed on the bottom surface of the anode; and

15 an emitter formed on the top surface of the cathode, the emitter facing the phosphor screen;

wherein the emitter comprises an electron emission member and an alignment member for aligning the electron emission member;

wherein the alignment member is formed with a magnetic material.

2. A field emission display comprising:

20 first and second substrates spaced apart from each other with a predetermined distance, the first substrate having a top surface and the second substrate having a bottom surface, the top surface of the first substrate facing the bottom surface of the second substrate;

a cathode disposed on the top surface of the first substrate, the cathode having a top surface and a bottom surface, the bottom surface of the cathode contacting the top surface of the first substrate;

5 an anode disposed on the bottom surface of the second substrate, the anode having a top surface and a bottom surface, the top surface of the anode contacting the bottom surface of the second substrate;

a phosphor screen formed on the bottom surface of the anode; and

an emitter formed on the top surface of the cathode, the emitter facing the phosphor screen;

10 wherein the emitter comprises an electron emission member having a longitudinal dimension, and an alignment member for aligning the electron emission member;

wherein the alignment member is formed with a magnetic material;

15 wherein the electron emission member is aligned by the alignment member such that the longitudinal dimension of the electron emission member is substantially vertically extended from the cathode toward the phosphor screen of the anode.

3. The field emission display of claim 1 wherein the electron emission member is formed with carbon fibers.

20 4. The field emission display of claim 3 wherein the magnetic material is coated on the carbon fibers.

5. The field emission display of claim 2 wherein the electron emission member is formed with carbon fibers.

Suhail 6. The field emission display of claim 4 wherein the magnetic material is coated on the carbon fibers.

7. The field emission display of claim 1 wherein the electron emission member is formed with graphite particles.

5 8. The field emission display of claim 7 wherein the magnetic material is coated on the graphite particles.

9. The field emission display of claim 2 wherein the electron emission member is formed with graphite particles.

10 10. The field emission display of claim 9 wherein the magnetic material is coated on the graphite particles.

Suhail A2 11. A method of fabricating a field emission display having two substrates, the method comprising the steps of:

forming a cathode and an anode each through depositing a conductive layer onto the corresponding substrate;

15 preparing an emitter paste through mixing an electron emitting material, a magnetic material, and additives such as a frit and a binder;

screen-printing the emitter paste onto the cathode;

aligning the electron emitting material through forming a magnetic field in the vicinity of the printed emitter paste such that the electron emitting material is aligned substantially perpendicular to the cathode;

20 solidifying the emitter paste through drying and burning the emitter paste; and

sealing the substrates into one body.

12. The method of claim 11 wherein the step of aligning the electron emitting material is performed by orienting the magnetic field to be substantially perpendicular to the cathode.

13. The method of claim 11 wherein the electron emitting material
5 is selected from the group consisting of carbon fibers and graphite particles.

14. The method of claim 11 wherein the magnetic material is selected from the group consisting of Fe, Ni, Fe_2O_3 and Co.

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